



## NEW PROGRAM PROPOSAL FORM

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**Sponsoring Institution(s):** Missouri Western State University

**Program Title:** Information Technology Assurance Administration (ITAA)

**Degree/Certificate:** Master of Science

**Options:** Click here to enter text.

**Delivery Site(s):** 4525 Downs Dr. Saint Joseph MO 64506

**CIP Classification:** 11.1003

\*CIP code can be cross-referenced with programs offered in your region on MDHE's program inventory [higher.ed.mo.gov/ProgramInventory/search.jsp](http://higher.ed.mo.gov/ProgramInventory/search.jsp)

**Implementation Date:** August 2015

**Cooperative Partners:** Click here to enter text.

\*If this is a collaborative program, form CL must be included with this proposal

### AUTHORIZATION:

Jeanne Daffron September 18, 2014

Name/Title of Institutional Officer

Signature

Date

Cindy Heider

816-271-4534

Person to Contact for More Information

Telephone

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Form NP – New Program Proposal



C. General education: Total crédits: 0

[illegible][illegible]

E. Free elective credits: Total credits: 6

One of the following groups:

- a) COM 601 Professional and Organizational Communication (3)  
and one from the following:
  - ETC 508 Technical Editing (3) or
  - ETC 600 Graduate Studies in Technical Communication or
  - ENG 540 Writing for Management and Supervision (3)
- b) MGT 503 Organizational Theory (3)  
MIM 613 ERP Fundamentals (3)
- c) MKT 605 Marketing Strategy (3)  
ECO 607 Managerial Economics (3)
- d) PSY 600 Applied Cognitive Design (3)  
PSY 610 User Centered Design Methods (3)
- e) LAW535 Intro to Computer Forensics (3)  
LAW 697 Graduate Special Topics: Internet Commerce Fraud and Investigation (3)

(Sum of C, D and E should equal A.)

F. Requirements for thesis, internship or other capstone experience:

CSC694	3	Professional Project / THESIS I
CSC695	3	Professional Project / THESIS II

G. Any unique features such as interdepartmental cooperation:

As shown in section E, the ITAA program enables students to specialize their security research in specific areas. These areas include:

- Technical Writing
- Management of Business Systems
- Laws and Regulation
- Forensics and Computer Fraud
- Human Factor Interface



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## PROGRAM CHARACTERISTICS AND PERFORMANCE GOALS

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Institution Name      Missouri Western State University  
Program Name        Information Technology Assurance Administration  
Date                    September 18, 2014

(Although all of the following guidelines may not be applicable to the proposed program, please carefully consider the elements in each area and respond as completely as possible in the format below. Quantification of performance goals should be included wherever possible.)

### 1. Student Preparation

- Any special admissions procedures or student qualifications required for this program which exceed regular university admissions, standards, e.g., ACT score, completion of core curriculum, portfolio, personal interview, etc. Please note if no special preparation will be required.  
To be fully accepted for admission into the ITAA graduate program at MWSU, an applicant must have 1. A Bachelor's degree or Master's degree in a related field from an accredited college or university. 2. A minimum cumulative undergraduate GPA of 2.75 on a 4.0 scale or previously earned Master's degree.
- Characteristics of a specific population to be served, if applicable.  
International Admission: In addition to the general requirements, non-English speaking applicants must have a minimum score of 550 paper test, 213 computer-based, or 79 internet-based on the Test of English as a Foreign Language (TOEFL) or a 6.0 academic IELTS score unless they possess a bachelor or master degree, or have completed a minimum of 60 semester credit hours from a college or university in which instruction is given in English. Tests taken more than two (2) years prior to the date of application cannot be accepted. All international applicants should have their transcripts evaluated by WES (World Education Service).

### 2. Faculty Characteristics

- Any special requirements (degree status, training, etc.) for assignment of teaching for this degree/certificate.  
Instructors should have at least a masters degree in related academic areas; preference will be given to full-time faculty with a terminal degree and/or certifications in core content areas.
- Estimated percentage of credit hours that will be assigned to full time faculty. Please use the term "full time faculty" (and not FTE) in your descriptions here.  
Ninety percent (90%) of the credit hours will be assigned to full time faculty.



- Expectations for professional activities, special student contact, teaching/learning innovation.  
Faculty will be required to engage in collaborative research with graduate student advisees. The ITAA program incorporates the Missouri Western State University statewide mission of Applied Learning.. Faculty will incorporate applied learning components into course objectives to facilitate professional skill building. Research will be disseminated through conference presentations and publications.

### 3. Enrollment Projections

- Student FTE majoring in program by the end of five years.  
45
- Percent of full time and part time enrollment by the end of five years.  
Full time – 85% Part time – 15%

### 4. Student and Program Outcomes

- Number of graduates per annum at three and five years after implementation.  
30 – 45
- Special skills specific to the program.  
ITAA focuses on security management in information technology, which makes ITAA a unique masters degree program in Missouri. Employers in the regional area are implementing new security regulations in healthcare and information technology, the graduates of this program will be trained in new regulations and technologies. Students will be prepared for the following certifications: Network+, Security+, Oracle Database 12c OCP, and Windows Server certification.
- Proportion of students who will achieve licensing, certification, or registration.  
Certification in Network+, Security+, Oracle Database12c OCP amd Windows Server will be available to all students. Eighty percent (80%) of students will sit for and pass certification exams.
- Performance on national and/or local assessments, e.g., percent of students scoring above the 50th percentile on normed tests; percent of students achieving minimal cut-scores on criterion-referenced tests. Include expected results on assessments of general education and on exit assessments in a particular discipline as well as the name of any nationally recognized assessments used.  
The ITAA degree program requires a professional project that extends graduate student knowledge and acquisition of new knowledge in an applied format. The completed projects should be eligible for publication or presentation. There is currently no end-of-

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program assessment exam for the ITAA graduate program. The ETS Graduate Fields test is currently only available for MBA programs. General education assessment would not apply to this graduate program.

- Placement rates in related fields, in other fields, unemployed.  
With the growing concern for information and network security, the ITAA program will provide an in-depth focus on the roles of a network administrator and production security personnel. The ITAA degree program is designed to support the growing need for trained information security employees in small, midsized, and even larger corporation. The need for such personnel has grown nationwide; information security is the focus of numerous new laws and regulations. As business and commerce moves to the internet this will become more and more important. This program is designed to help graduate student's bridge the gap between theory and application in information technology assurance. The demand for students possessing security certifications, regulation knowledge, and management skill is increasing annually. Cerner, Inc. has completed a new 660,000-square-foot campus near the Kansas Speedway designed to house 4,000 new workers. Cerner's is a major employer in the healthcare information technology industry in the metropolitan Kansas City area. In the past several years Missouri Western has placed graduates in internships and full-time employment with Cerner. With an improving economy, MITRE has lifted their hiring freeze and is hiring Missouri Western students this fall, and anticipates hiring another student in the spring. Herzog Contracting Corporation and Boehringer Ingelheim Vetmedica, Inc. both hire Missouri Western computer science graduate students. The need for information assurance trained employees is growing in the four state region; Missouri, Kansas, Nebraska, and Iowa. The demand for personnel trained in information security and cyber security has outpaced supply for the past several years. The department of labor projects a 37% annual increase in demand for information assurance professionals over the period of 2012-2022 (<http://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm>). The number of jobs created in information security in 2012 was 74,000. The percentage of students placed following completion of the ITAA degree program will be 90%+.
- Transfer rates, continuous study.  
The ITAA program is designed to allow working professionals from area businesses to upgrade their information security knowledge and certification status. Missouri Western State University acceptst transfer computer science students and professionals and supports their integration into the cohort program.

## 5. Program Accreditation

- Institutional plans for accreditation, if applicable, including accrediting agency and timeline. **If there are no plans to seek specialized accreditation, please provide a rationale.**  
At this time the Association for Computing Machines (ACM) and the Institute of Electrical and Electronics Engineers (IEEE) computer science accreditation

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(<http://www.acm.org/acm-ieeeecs-coop/accreditation-board>) is only for baccalaureate programs. When graduate program accreditation becomes available, Missouri Western will seek program accreditation.

## 6. Alumni and Employer Survey

- Expected satisfaction rates for alumni, *including timing and method of surveys*.  
The ITAA faculty and the program administrator will work with the Missouri Western State University Director of Alumni Services to conduct annual electronic surveys of the ITAA alumni to examine outcomes in employment success and program satisfaction. The survey will be designed to collect information to improve student outcomes and experiences.
- Expected satisfaction rates for employers, including timing and method of surveys.  
ITAA faculty and the program administrator will conduct an annual electronic survey of regional and national employers and target those hiring from the program's graduate pool. A satisfaction rate of 80%+ from the electronic surveys is projected from this population response. Survey instruments will include response criteria and information to improve and enhance the program to meet regional and national employer needs.

## 7. Institutional Characteristics

- Characteristics demonstrating why your institution is particularly well-equipped to support the program.

Missouri Western State University has a legislated statewide mission of applied learning. As a result, ITAA coursework is designed to emulate authentic, real-world work environments. Graduates have experiences that enabled them to address employer needs without additional training. Further, Missouri Western is highly involved in supporting regional businesses. Specifically, the Computer Science discipline has partnerships with most of the major employers in the St. Joseph region such as: Boehringer Ingelheim Vetmedica, Herzog Corporation, Hillyars Chemical Companies, Lifeline Foods and Heartland Regional Medical Center. We are also forming a new partnership with Cerner in Database Administration and Health Informatics. Another partnership includes the MITRE Corporation and TRACDOC Analysis Center at Fort Leavenworth, Kansas.

### FACULTY AREA OF RESEARCH AND EXPERTISE:

Yan, Baoqiang:	Cryptography, Ecommerce, Software Security
Becker, Deborah	Network Security and Administration, Project Management
Hecker, Connie	Database Management
(1) New faculty	Information Technology Security (all areas)

The new faculty position has been approved and a search is underway. The focus of this degree is security in all areas of Information Technology. The current faculty are updating certifications or adding new certifications in the following areas in anticipation of this new program: Security+, Network+, Oracle Database 12c OCP, Windows Server.

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Form PG – Program Characteristics and Performance Goals





## STUDENT ENROLLMENT PROJECTIONS

Year	1	2	3	4	5
Full Time	25-35	25-35	40-60	40-60	40-60
Part Time	5	10	15	15	15
Total	30-40	35-45	55-75	55-75	55-75

Please provide a rationale regarding how student enrollment projections were calculated:

	Year 1	Year 2	Year 3	Year 4	Year 5
New Full-Time Students	25-35	25-35	40-60	40-60	40-60
New Part-Time Students	5	10	15	15	15
Continuing Full-Time Students	0	25-35	25-35	40-60	40-60
Continuing Part-Time Students	0	5	10	15	15
Graduating Students	0	25-35	27-37	40+	40+

Provide a **rationale** for proposing this program, including **evidence of market demand and societal need supported by research**:

The Master of Science in Information Technology Assurance Administration (ITAA) degree program would serve careers at the entry, mid, or upper-level positions, depending upon the prior level of experience of the candidate. This degree falls into the STEM workforce educational paradigm. The ITAA program will be filed under the 11.1003 Computer and Information Systems Security/Information Assurance CIP code.

According to the Missouri, 2013 Labor Demand Analysis ([http://www.missourieconomy.org/pdfs/stem\\_labor\\_demand.pdf](http://www.missourieconomy.org/pdfs/stem_labor_demand.pdf)), in 2013 there were nearly

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4000 advertised jobs in Information Technology in the Kansas City, Missouri area and some 120 job posting in the Saint Joseph regional area. Managers trained in network and information assurance are in high demand in local areas and nationally there is a shortage. There were 2,082 job postings in the Information Technology Industry for the six month period ending December 2013. The top occupation was Software Developers with 267 job postings. The next highest occupation demand was Computer Systems Analysts, 137 job postings, which would include security specialists ([http://www.missourieconomy.org/pdfs/mo\\_info\\_tech.pdf](http://www.missourieconomy.org/pdfs/mo_info_tech.pdf)). Computer Network and Computer Systems Administrators jobs are expected to grow by 3,119 jobs in the state of Missouri, during the time period (2010-2020) and are considered A+ jobs. ([http://www.missourieconomy.org/pdfs/stem\\_top\\_openings\\_revised-02-20-13.pdf](http://www.missourieconomy.org/pdfs/stem_top_openings_revised-02-20-13.pdf)). In the top ten stem job listings in the state of Missouri, six of the jobs are in the information technology sector ([http://www.missourieconomy.org/pdfs/stem\\_occ\\_booklet.pdf](http://www.missourieconomy.org/pdfs/stem_occ_booklet.pdf)). From the above data employment analysis there were nearly 4000 IT jobs advertised in 2013, of these 120 jobs were advertised in the local area. Herzog, Boehringer Ingelheim Vetmedica, Lifeline Foods, DST, Cerner and Miter select employees from the Missouri Western graduate pool. These companies have selected Missouri Western graduates as analysis, programmers and IT managers. Market demand for data assurance is being driven by healthcare reform and internet service expansion. Saint Joseph and the Kansas City Metropolitan areas are home to major players in both of these markets; Cerner, DST, Google, etc. This program would serve to provide a needed pool of candidates for corporations to select from both in the Saint Joseph and the Kansas City metropolitan areas. The existing Masters of Information Technology Management program currently has 26 full-time and three part-time students. We anticipate a much greater demand for the ITAA program.